What is Claimed is:

1. A hydrogen-based/oxygen-based mixed gas containing H and, H_2 and, H_3 and/or HD and, OH and, ^{16}O and, and O_2.

2. A hydrogen-based/oxygen-based mixed gas according to claim 1, wherein H_2, is 55 to 70 percent mole, and H is 0.12 to 0.45 percent mole, and H_3, and HD total 0.03 to 0.14 percent mole, OH is 0.3 to 1.2 percent mole, ^{16}O is 1.0 to 4.2 percent mole, and O2 is 5 to 27 percent mole

3. A hydrogen-based/oxygen-based mixed gas according to claim 1, wherein the hydrogen-based/oxygen-based mixed gas is obtained by a gas generating means including:

(A) an electrolysis tank for containing the electrolyte fluid;

(B) an electrolysis means including a pair of electrode comprised of a positive electrode member and a negative electrode member installed to make contact with the electrolyte fluid stored inside the electrolysis tank and, a power supply for applying a voltage across the positive electrode member and the negative electrode member;

(C) a vibro-stirring means for vibrating and stirring the electrolyte fluid stored inside the electrolysis tank;

(D) a gas trapping means for trapping the hydrogen-based gas and the oxygen-based gas.

4. Fuel for a fuel cell comprised of hydrogen-based/oxygen-based mixed gas according to any of claims 1 through 3.

5. A hydrogen-based gas including H and, H_2 and, H_3, and/or HD and,OH.

6. A hydrogen-based gas according to claim 5, obtained by a gas generating means including:

(A) an electrolysis tank for containing the electrolyte fluid;

(B) an electrolysis means including a pair of electrodes comprised of a positive electrode member and a negative electrode member installed to make contact with the electrolyte fluid stored inside the electrolysis tank and, a power supply for applying a voltage across the positive electrode member and the negative electrode member;

(C) a vibro-stirring means for vibrating and stirring the electrolyte fluid stored inside the electrolysis tank;

(D) a gas trapping means for trapping the hydrogen-based gas.

7. A fuel for a fuel cell comprised of the hydrogen-based gas of claim 5 or claim 6.

8. A fuel cell comprising: a single cell or a stack of single cells containing a fuel electrode, an air electrode, and a hollow layer or electrolytic layer interposed between that fuel electrode and air electrode.

9. A fuel cell including a single cell or a stack of single cells containing a fuel electrode, an air electrode, and a hollow layer or electrolytic layer interposed between the fuel electrode and air

electrode, wherein, a supply port is formed on the fuel electrode side for supplying hydrogen-based gas, and the fuel electrode to which the hydrogen-based gas is supplied is gas-permeable, with the hydrogen-based gas generating means including:

(A) an electrolysis tank for storing the electrolyte fluid;

(B) an electrolysis means including a pair of electrodes made from a negative electrode member and a positive electrode member installed so as to make contact with the electrolyte fluid stored inside the electrolysis tank, and a power supply for applying a voltage across the negative electrode member and the positive electrode member;

(C) a vibro-stirring means for vibration-stirring the electrolyte fluid stored inside the electrolysis tank; and

(D) a gas trapping means for trapping hydrogen-based gas generated by the electrolyzing means for electrolyzing the electrolyte fluid stored inside the electrolysis tank.

10. A fuel cell including a single cell or a stack of single cells containing a fuel electrode, an air electrode, and a hollow layer or electrolytic layer interposed between the fuel electrode and air electrode, wherein the electrode on the side supplied with the hydrogen-based/oxygen-based mixed gas is gas-permeable, and a supply port is formed on the fuel electrode side or on both the fuel electrode side and the air electrode side for supplying hydrogen-based/oxygen-based mixed gas obtained by utilizing a hydrogen-based/oxygen-based mixed gas generating means including:

(A) an electrolysis tank for storing the electrolyte fluid;

(B) an electrolyzing means including a pair of electrodes made from a negative electrode member and a positive electrode member installed so as to make contact with the electrolyte fluid stored inside the electrolysis tank, and a power supply for applying a voltage across the negative electrode member and the positive electrode member;

(C) a vibro-stirring means for vibration-stirring of the electrolyte fluid stored inside the electrolysis tank; and

(D) a gas trapping means for trapping hydrogen-based gas and oxygen-based gas generated by the electrolyzing means for electrolyzing the electrolyte fluid stored inside the electrolysis tank.

11. A fuel cell according to claim 9 or claim 10, wherein the vibro-stirring means is comprised of at least one vibration generating means, and a vibration-stirring member made up of at least one vibrating rod linked to the vibration generating means and at least one vibrating blade installed on the vibrating rod.

12. An electrical generating method utilizing a fuel cell, wherein a vibrating motor is vibrated at 10 to 500 Hertz by utilizing an inverter, and that vibration is conveyed to a vibration adaptive absorbing means via a vibrating rod, and by oscillating the vibrating blades in one or multiple stages on the vibrating rod at an amplitude of 0.01 to 30.0 millimeters as well as a frequency of 500 to 30,000

revolutions per minute, a hydrogen-based gas obtained by electrolysis during vibration-stirring of the electrolyte fluid is supplied to the fuel cell.

13. An electrical generating method utilizing a fuel cell according to claim 12 wherein the hydrogen-based gas contains H and, H_2 and, H_3 and/or HD and, OH.

14. An electrical generating method utilizing a fuel cell, wherein a vibrating motor is vibrated at 10 to 500 Hertz by utilizing an inverter, and that vibration is conveyed to a vibration adaptive absorbing means via a vibrating rod, and by oscillating the vibrating blades in one or multiple stages on the vibrating rod at an amplitude of 0.01 to 30.0 millimeters as well as a frequency of 500 to 30,000 revolutions per minute, a hydrogen-based/oxygen-based mixed gas obtained by electrolysis during vibration-stirring of the electrolyte fluid is supplied to the fuel cell.

15. An electrical generating method utilizing a fuel cell, wherein the hydrogen-based/oxygen-based mixed gas contains H and, H_2 and, H_3 and/or HD and, OH and, ^{16}O, and O_2.

16. An electrical generating method utilizing a fuel cell according to claim 15, wherein the hydrogen-based/oxygen-based mixed gas contains:

H_2: 55 to 70 mole%

H: 0.12 to 0.45 mole%

H_3 and HD totaling: 0.03 to 0.14 mole%

OH: 0.3 to 1.2 mole%

^{16}O: 1.0 to 4.2 mole%

O_2: 5 to 27 mole%.

17. An electrical generating method utilizing a fuel cell for supplying electricity wherein, by oscillating a vibrating motor at 10 to 500 Hertz by utilizing an inverter, and transmitting that oscillation to a vibration adaptive absorbing means via a vibrating rod, and by oscillating the vibrating blades in one or multiple stages on the vibrating rod at an amplitude of 0.01 to 30.0 millimeters as well as a frequency of 500 to 30,000 revolutions per minute, a hydrogen-based/oxygen-based mixed gas obtained by electrolysis during vibration-stirring of the electrolyte fluid, is supplied as a fuel to the gas permeable fuel electrode side or both the gas permeable fuel electrode side and the gas-permeable air electrode side of a single cell or a stack of laminated single cells containing a fuel electrode, and an air electrode, and a hollow layer interposed between the fuel electrode and the air electrode; and generates electricity.

18. An electrical generating method utilizing a fuel cell according to claim 17, wherein the hydrogen-based/oxygen-based mixed gas contains H and, H_2 and, H_3 and/or HD and, OH and, ^{16}O, and O_2.

19. An electrical generating method utilizing a fuel cell according to claim 18, wherein the hydrogen-based/oxygen-based mixed gas contains:

H_2: 55 to 70 mole%

H: 0.12 to 0.45 mole%

H_3 and HD totaling: 0.03 to 0.14 mole%

OH: 0.3 to 1.2 mole%

^{16}O: 1.0 to 4.2 mole%

O_2: 5 to 27 mole%.